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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,114	05/16/2007	John Fuller	007101.P006	3706

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EXAMINER

RIDLEY, RICHARD W L

ART UNIT	PAPER NUMBER
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3656

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,114	Applicant(s) FULLER, JOHN	
	Examiner WILLIAM C. JOYCE	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This is the First Office Action in response to the above identified patent application filed on May 16, 2007.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: Each section of the specification must have a heading (i.e. "Brief Summary of the Invention", "Brief Description of the Drawings", and "Detailed Description of the Invention"). Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Claim 1, line 2, the addition of the word "type" to an otherwise definite expression extends the scope of the expression so as to render it indefinite. Ex parte Copenhaver, 109 USPQ 118 (Bd. App. 1955).

- b. Claim 2, line 2, the limitation "at least one working chamber" is unclear as to whether applicant is referring to the "at least one working chamber" recited on line 13 of claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4-6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Greenwood et al. (USP 7,318,786).

Greenwood et al. teaches a hydraulic control arrangement for a variator of the type having a pair of races (4,78,79), at least one roller (12) which is arranged to engage both races to transfer drive from one race to the other and is movable in accordance with changes in variator drive ratio, a hydraulic traction loading actuator (5,6) arranged to apply a traction load urging the roller and races into engagement to provide traction therebetween and so enable the transfer of drive, and at least one hydraulic roller actuator (18) arranged to apply a reaction force to the roller, the control arrangement comprising hydraulics for applying fluid at an adjustable reaction pressure to the roller actuator to control the reaction force and for applying fluid to the traction loading actuator at a traction pressure which is related to the reaction pressure, thereby maintaining a relationship between

reaction force and traction load, wherein the control arrangement further comprises at least one working chamber (wherein the working chamber can be considered part of the roller actuator, the traction loading actuator, or a chamber formed on one of the hydraulic control valves) which is selectively connectable to and disconnectable from one of the reaction pressure and the traction pressure, and in that traction force is dependent upon pressure in the working chamber, so that by connecting/disconnecting the working chamber to/from the relevant pressure, the relationship between reaction force and traction force is changed, a traction pressure control valve (102) whose output forms the traction pressure and is controlled in response to opposed pilot pressure signals formed by the reaction pressure (110) and the traction pressure (111).

7. Claims 1, 2, 9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Greenwood (USP 5,938,557).

Greenwood discloses a hydraulic control arrangement for a variator of the type having a pair of races (12,13,17), at least one roller (19) which is arranged to engage both races to transfer drive from one race to the other and is movable in accordance with changes in variator drive ratio, a hydraulic traction loading actuator (25) arranged to apply a traction load urging the roller and races into engagement to provide traction therebetween and so enable the transfer of drive, and at least one hydraulic roller actuator (29) arranged to apply a reaction force to the roller, the control arrangement comprising hydraulics for applying fluid at

an adjustable reaction pressure to the roller actuator to control the reaction force and for applying fluid to the traction loading actuator at a traction pressure which is related to the reaction pressure, thereby maintaining a relationship between reaction force and traction load, wherein the control arrangement further comprises at least one working chamber (wherein the working chamber can be considered part of the roller actuator, the traction loading actuator, or a chamber formed on one of the hydraulic control valves) which is selectively connectable to and disconnectable from one of the reaction pressure and the traction pressure, and in that traction force is dependent upon pressure in the working chamber, so that by connecting/disconnecting the working chamber to/from the relevant pressure, the relationship between reaction force and traction force is changed, wherein reaction pressure is constantly supplied to at least one working chamber (25) in the hydraulics by which traction force is controlled, wherein the reaction pressure and the traction pressure can be the same.

8. Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakurai (JP 1-250657).

Sakurai discloses a hydraulic control arrangement for a variator of the type having a pair of races (11,13), at least one roller (12) which is arranged to engage both races to transfer drive from one race to the other and is movable in accordance with changes in variator drive ratio, a hydraulic traction loading actuator (71,72) arranged to apply a traction load urging the roller and races into

engagement to provide traction therebetween and so enable the transfer of drive, and at least one hydraulic roller actuator (15,17) arranged to apply a reaction force to the roller, the control arrangement comprising hydraulics for applying fluid at an adjustable reaction pressure to the roller actuator to control the reaction force and for applying fluid to the traction loading actuator at a traction pressure which is related to the reaction pressure, thereby maintaining a relationship between reaction force and traction load, wherein the control arrangement further comprises at least one working chamber (wherein the working chamber can be considered part of the roller actuator, the traction loading actuator, or a chamber formed on one of the hydraulic control valves 2, 3, or 200) which is selectively connectable to and disconnectable from one of the reaction pressure and the traction pressure, and in that traction force is dependent upon pressure in the working chamber, so that by connecting/disconnecting the working chamber to/from the relevant pressure, the relationship between reaction force and traction force is changed.

With respect to claim 2, the reaction pressure is constantly supplied to at least one working chamber (63) in the hydraulics by which traction force is controlled, wherein the reaction pressure and the traction pressure can be the same.

With respect to claim 3, at least two actuator working chambers (17,71) each of which is selectively connectable to and disconnectable from the reaction

pressure or the traction pressure by a control valve (2,3,200), so that by selecting different permutations of the chambers multiple different relationships between reaction force and traction force are obtainable.

With respect to claim 4, a traction pressure control valve (3,200) comprising the aforementioned working chamber.

With respect to claim 5, a traction pressure control valve (3) whose output forms the traction pressure and is controlled in response to opposed pilot pressure signals formed by the reaction pressure (63) and the traction pressure (62)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Greenwood (USP 5,938,557) or Sakurai (JP 1-250657), as applied to claim 1 above, and further in view of Haka (USP 6,162,144).

The prior art described above does not disclose the traction load actuator having two working chambers. The prior art to Haka illustrates in Figure 2 a traction

load actuator having two working chambers (170,174), one of the chambers (170) is constantly connected to the traction pressure and the other chamber (174) is selectively connectable to and disconnectable from the traction pressure by a control valve (178), wherein the hydraulic arrangement includes a further selectively connectable working chamber. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify either one of Greenwood ('557) or Sakurai ('657) with a traction load actuator having two chambers, as taught by Haka, motivation being to provide accurate and consistent force control of the traction device.

Allowable Subject Matter

11. Claims 7 and 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM C. JOYCE whose telephone number is (571)272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3656

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM C JOYCE/
Primary Examiner, Art Unit 3656